

Justin Lubin

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Curriculum Vitae, July 2023

Research Vision

Computation is empowering, and programming languages are how we harness it. To that end, I study the human aspect of programming to make programming languages, environments, and tools that are more accessible, intuitive, and powerful.

Primary area: programming languages **Secondary area:** human-computer interaction

Education

University of California, Berkeley 2020–
PhD in Computer Science
Advisor: Sarah E. Chasins

University of Chicago 2016–2020
BS in Computer Science (Honors), BS in Mathematics, Minor in Music. *Summa cum laude*.
Advisor: Ravi Chugh
Honors Thesis: [Forging Smyth: The Impl. of Program Sketching with Live Bidirectional Evaluation](#)

Research Internships

Carnegie Mellon University 2018
Advisors: Jonathan Aldrich (CMU), Alex Potanin (Victoria University of Wellington)
Project: [Approximating Polymorphic Effects with Capabilities](#)

Peer-Reviewed Conference and Journal Publications

* = equal contribution, † = research mentee

[Exploring the Learnability of Program Synthesizers by Novice Programmers](#) UIST 2022
Dhanya Jayagopal^{*†}, [Justin Lubin](#)^{*}, and Sarah E. Chasins
In *Proceedings of the ACM Symposium on User Interface Software and Technology*.

[How Statically-Typed Functional Programmers Write Code](#) OOPSLA 2021
[Justin Lubin](#) and Sarah E. Chasins
In *Proceedings of the ACM on Programming Languages (PACMPL), Issue OOPSLA*.

[Program Sketching with Live Bidirectional Evaluation](#) ICFP 2020
[Justin Lubin](#), Nick Collins, Cyrus Omar, and Ravi Chugh
In *Proceedings of the ACM on Programming Languages (PACMPL), Issue ICFP*.

[Sketch-n-Sketch: Output-Directed Programming for SVG](#) UIST 2019
Brian Hempel, [Justin Lubin](#), and Ravi Chugh
In *Proceedings of the ACM Symposium on User Interface Software and Technology*.

[Deuce: A Lightweight User Interface for Structured Editing](#) ICSE 2018
Brian Hempel, [Justin Lubin](#), Grace Lu, and Ravi Chugh
In *Proceedings of the International Conference on Software Engineering*.

Workshop Publications

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Searching for Incidental Specifications PLATEAU 2023

Jeremy Ferguson*[†], Kevin Ye*[†], Jacob Yim*[†], and [Justin Lubin](#)

In *Proceedings of the Workshop on Evaluation and Usability of Programming Languages and Tools*.

Type-Directed Program Transformations for the Working Functional Programmer PLATEAU 2019

[Justin Lubin](#) and Ravi Chugh

In *Proceedings of the Workshop on Evaluation and Usability of Programming Languages and Tools*.

Honors

NSF Graduate Research Fellowship (GRFP) 2020–2025

Special Recognition for Outstanding Review CHI 2023

Mentoring and Teaching Awards

Undergraduate Research Mentoring Award (UC Berkeley) 2023

Outstanding Graduate Student Instructor Award (UC Berkeley) 2022

Student Research Competitions

3rd Place Graduate at CHI, *How Statically-Typed Functional Programmers Author Code* 2021

1st Place Undergraduate at SPLASH, *Approximating Polymorphic Effects with Capabilities* 2018

Honor Societies

Sigma Xi 2020–

Phi Beta Kappa 2019–

Academic Honors

Enrico Fermi Scholar (University of Chicago) 2020

Harper Award (University of Chicago) 2020

Student Marshal (University of Chicago) 2019–2020

Dean's List (University of Chicago) 2016–2020

Invited Talks and Other Presentations

Invited External Talks

UPenn PLClub, How Statically-Typed Functional Programmers Write Code 2022

UCSD PL Seminar, How Statically-Typed Functional Programmers Write Code 2021

Invited Internal Talks and Workshops

Nuñez Lab Retreat, Re-imagining Programming for Experimental Biologists 2023

EPIC Retreat, Usable Programming Tools for Experimental Biologists 2023

Nuñez Lab, Programming Workshop for Experimental Biologists 2023

EPIC Advance, Exploring the Learnability of Program Synthesizers by Novice Programmers 2022

Guest Lectures

User-Centered Design ([CS 294: Building User-Centered Programming Tools](#)) 2023

Compiler Optimizations ([CS 164: Programming Languages and Compilers](#)) 2021

Professional Activities and External Service

Dagstuhl

[Theories of Programming](#) 2022

Organizing Committee

Workshop on Evaluation and Usability of Programming Languages and Tools PLATEAU 2023

Program Committee

Workshop on Live Programming LIVE 2023

Workshop on Human Aspects of Types and Reasoning Assistants HATRA 2023

External Reviewer

ACM Conference on Human Factors in Computing Systems CHI 2023
Received Special Recognition for Outstanding Review

Formal Methods in System Design FMSD 2022

ACM Symposium on User Interface Software and Technology UIST 2021

Social Sessions Co-organizer

[PL+HCI “Swimmer” School](#) 2022

Student Volunteer

Elm in the Spring Conference 2019

International Conference on Functional Programming (ICFP) 2018

Mentorship

MS Research Advisees

Jeremy Ferguson (Undergraduate and MS @ UC Berkeley) 2022–
2nd Place Undergraduate at POPL SRC 2023: Synthesizing Vectorized Code via Verified Lifting
Co-first author at PLATEAU 2023

Jacob Yim (Undergraduate and MS @ UC Berkeley) 2022–
Co-first author at PLATEAU 2023

Dhanya Jayagopal (Undergraduate and MS @ UC Berkeley) 2020–2022
MS Thesis: [Study of Program Synthesizers & Novice Programmers](#)
Co-first author at UIST 2022

Undergraduate Research Advisees

Kevin Ye (Undergraduate @ UC Berkeley) 2022–
Co-first author at PLATEAU 2023

Fayaz Shaik (Undergraduate @ Ohlone College; [TTE REU](#) mentee) 2021–2022
Poster at SACNAS NDiSTEM 2021: User-Centered Data Population of Knowledge Graphs

[SIGPLAN-M](#) Mentees

Carolina Carreira (PhD @ CMU Portugal) 2022–

Adharsh Kamath (Research Fellow @ MSR India) 2022–

Additional Mentees

Kasozi Vincent (MS @ University of Chlef) 2022–

Teaching

University of California, Berkeley

CS 164: Programming Languages and Compilers (TA) Fall 2022

CS 164: Programming Languages and Compilers (Head TA) Fall 2021

Received Outstanding Graduate Student Instructor Award

University of Chicago

CMSC 22300: Functional Programming (TA) Spring 2020

CMSC 16100: Honors Introduction to Programming I (Grader) Fall 2018

Internal Service

UC Berkeley Programming Systems Research Group

Visit Days Area Coordinator 2022

Seminar Organizer 2021–2022

Graduate Admissions Representative Winter 2021

UC Berkeley EECS Department

Co-organizer, [EECS Peers](#) (Graduate Student Peer Support Organization) 2023–

Mentor, [EECS Peers](#) 2022–

Mentor, [Women in Computer Science and Electrical Engineering \(WiCSE\)](#) 2022–

Visit Days Peer Advisor 2021–

Community Service

[WiCSE Girl Scout Engineering Day](#) 2023

Designed and led computer science educational activities for the Girl Scouts of Northern California to earn their programming and robotics badge.

[#ShutdownPL](#), Co-organizer 2020–2022

Coordinated logistics and managed funding for three keynote speakers at dedicated anti-racist events at ICFP and POPL.

[compileHer](#) Tech Capstone 2019

Led computer science educational activities for middle school girls in Chicago.